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United States Patent [19]

Hotto

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[54] **DC INTEGRATING DISPLAY DRIVER EMPLOYING PIXEL STATUS MEMORIES**

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[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,280,280.

[21] Appl. No.: **803,059**

[22] Filed: **Feb. 20, 1997**

Related U.S. Application Data

[63] Continuation of Ser. No. 446,898, May 17, 1995, Pat. No. 5,627,558, which is a continuation of Ser. No. 88,256, Jul. 7, 1993, Pat. No. 5,444,451, which is a continuation of Ser. No. 705,190, May 24, 1991, Pat. No. 5,280,280.

[51] **Int. Cl.**[6] **G09G 3/36**

[52] **U.S. Cl.** **345/100**; 345/98

[58] **Field of Search** 345/87, 89, 94, 345/96, 100, 101, 148, 98

[56] **References Cited**

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[57] **ABSTRACT**

This invention relates to an improved drive and control means for matrix addressable electro-optic displays, such as passive matrix LCDs and active matrix LCDs. The present invention achieves improved drive and control of displays through the use of real time computation and memory circuits to simulate the electro-optic condition and the accumulated DC bias of individual display elements. This eliminates the burden of frequent and symmetrical reversals of the drive polarity, and allows the implementation of flexible DC drive methodologies.

31 Claims, 7 Drawing Sheets